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/PCT/ZA99/00005

P 023

16 APR 1999

WIPO PCT

Sertifikaat

REPUBLIEK VAN SUID-AFRIKA

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PATENTKANTOOR

2A99/5

PATENT OFFICE

DEPARTEMENT VAN HANDEL EN NYWERHEID

REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF TRADE AND INDUSTRY

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PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

1) South African Patent Application No. **99/1811** accompanied by a Provisional Specification was filed at the South African Patent Office on the **8th March 1999**, in the name of **Christiaan Frederik Du Toit Mostert** in respect of an invention entitled: "**Method and System for Distributing Electronic Data**".

2) The photocopy attached hereto is a true copy of the provisional specification and drawings filed with South African Patent Application No. **99/1811**.

[redacted] PRETORIA in die Republiek van Suid-Afrika, hierdie 30th dag van March 1999
in the Republic of South Africa, this day of

Registrateur van Patente
Registrar of Patents

G.P.-S. 019-0096

G.P.-S. 019-0126

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

PO 32
Form P 1

APPLICATION FOR A PATENT AND ACKNOWLE[illegible]PT

[Section 30 (1)—Regulation 22]
(See notes overleaf)

e franking
n

The grant of a patent is hereby requested by the undermentioned applicant on the basis of the[illegible] application in duplicate.

(i)

Official application No.		
21	01	991811

Applicant's or agent's reference

(ii)

71	Full name(s) of applicant(s)	Chris Mostert

(iii)

	Address(es) of applicant(s).....	Interactive Multimedia Advertising Company

(iv)

54	Title of invention	Method and System for Distributing Electronic Data

(v)

	The applicant claims priority as set out on the accompanying form P 2

(vi)

	This application is for a patent of addition to Patent Application No.	
21	01	

(vii)

	This application is a fresh application in terms of section 37 and based on Application No.	
21	01	

(viii)

	This application is accompanied by:	
	1.	A single copy of a provisional or two copies of a complete specification of .....pages.
	2.	Drawings of.....sheets.
	3.	Publication particulars and abstract (form P 8 in duplicate).
	4.	A copy of Figure.....of the drawings (if any) for the abstract.
	5.	An assignment of invention.
	6.	Certified priority document(s) (state number).
	7.	Translation of the priority document(s).
	8.	An assignment of priority rights.
	9.	A copy of the form P 2 and the specification of S.A. Patent Application No. 21 01
	10.	A declaration and power of attorney on form P 3.
	11.	Request for ante-dating on form P 4.
	12.	Request for classification on form P 9.
	13.	

(ix)

74	Address for service:	P O BOX 74575 LYNWOODRIDGE 0040

Dated this 15 day of FEBRUARY 19 99

Signature of applicant(s) or agent

The duplicate will be returned to the applicant's address for service as proof of lodging but is not valid unless endorsed with official stamp.

Received	
Official date stamp	
1999-03-09	*Registrar of Patents*

Ref No:

FORM P6

REPUBLIC OF SOUTH AFRICA
Patents Act, 1978

PROVISIONAL SPECIFICATION

(Section 30 (1) - Regulation 27)

21	01	OFFICIAL APPLICATION NO
		991811

22	LODGING DATE
	1999 -03- 0 8

71	FULL NAME(S) OF APPLICANT(S)
	[illegible]

72	FULL NAME(S) OF INVENTOR(S)
	[illegible]

54	TITLE OF INVENTION
	[illegible]

METHOD AND SYSTEM FOR DISTRIBUTING ELECTRONIC DATA

INTRODUCTION AND BACKGROUND

This Invention relates to a method of, and system for distributing and downloading data and information to a user base. More specifically it relates to the broadcast of data or information from a broadcaster(s) to receiver(s) at a user base via wireless transmission.

With the introduction of the Internet and World Wide Webb many users have access to information and data over the internet. Due to enhancements in present ability of data and information via so called Web sites; downloading and accessing of information has become a time consuming process due to limited data throughput and transfer rates over standard telephone lines.

In most instances the various users need to purchase a modem and pay monthly subscription fees to a service provider which allows users to dail-up into their network at a POP (Point of Presence) which, in turn allows them access to the Internet Superhighway.

Furthermore research has shown that users has certain favorites or preregistered web sites which they access on multiple occasions. Also it has been found that the web sites accessed is done more in obtaining data and information i.e. stock prices, news ect as opposed to pure entertainment.

This whole process of logging into a service provider and then into a web site and downloading information is tedious and in most cases frustrating. Furthermore telephone cost is high around business hours and that is when most people access the net

Furthermore the invention aims to use aspects of the Internet and certain content to forward data / information on a "Push" bases via downloads or data dumps to a user base rather that the conventional Internet "pull" system which is facilitated by dail-up connection.

By identifying popular content and web site information; these data may be classified and grouped into channels or favorites that may be broadcasted via wireless transmission to a receiver at user base facilitating reception, decoding and saving of the downloaded data and information for viewing in real time to the download or at a future date or time.

The system implements enhancements to the internet and offers many advantages over standard internet usage - e.g. a standard dial-up connection on the net can be shortened considerably by, say, identifying a file to be downloaded and instead of taking up dial-up time, the session may be shortened by requesting the file to be sent, say, as an attachment to the user's Email address and delivered by the mail servers RF postbox.

Likewise, utilizing this system for delivery of Email or subscription data would not require

the user to even have a telephone connection to the internet.

OBJECT OF THE INVENTION

Accordingly it is an object of the present invention to provide a system and method for broadcasting and receiving data or information, and with which the applicant believes disadvantages of known systems may at least be alleviated.

Furthermore the Invention aims to provide users with a system that may enable and/or facilitate one or more of the following:

- product delivery systems - orders placed via the internet or otherwise for data based products such as software or information can be seamlessly delivered without time consuming and costly internet downloads. With the advent of the sale of complete music CD's over the net, this is a perfect application for the unit as a product delivery system.

- mail delivery - while EMAIL remains the fastest possible communication platform, with most people only having access to undedicated telephony systems, one's mailbox is only checked intermittently or even once per day and it only those with costly dedicated digital connectivity that benefit from receiving mail seconds after it is sent. This system would deliver mail as it is sent, whether or not the user is currently

connected to the internet or not.

- downloads - while the internet offers users an incessant source of free product downloads, the speed and associated costs thereto remains the deterrent. The Digital Current system, operating in the background, at no direct cost and constantly, alleviates the time problem.

- business information - through a subscription service (which is already in place but again only effective for those who enjoy dedicated connectivity) users can select appropriate information to be delivered to their desk at chosen intervals - this would be particularly useful for the delivery up-to-date information such as stock prices, exchange rates, news, etc.

- community and crime prevention applications are also abound - the timeous delivery of information such as stolen credit cards lists, stolen vehicles, etc.

- finally, there is immense potential for delivery of internet content to less privileged or rural area's without telephony facilities.

SUMMARY

According to the 1st aspect of the invention there is included a method of facilitating downloading of data over a wireless communications network via computer, the method including the steps of:

- providing a broadcaster interconnected with wireless transmitter, - at least one service provider and - at least one user wireless reception means with display means;
- providing at least one broadcasted signal;
- receiving the signal;
- storing the signal; and
- displaying the data on the display means connected or connectable to the reception means

According to the 2nd t aspect of the invention there is included a method which includes the steps of transmitting the signal over a wireless network including any one or more of: a RF network, a FM network, a television network, a cellular network and a satellite network

According to the 3rd aspect of the invention the reception device may be associated with a wireless receiver as part of a computer module or as a separate unit connectable with a display device.

According to the 4th aspect of the invention the display device is associated with a PC Screen or a TV set

According to the 5th aspect of the invention the data or information that is downloaded may be in compressed format that may be uncompressed at user base

According to the 6th aspect of the invention the reception device may include one or more switchable channels allowing activating and/or deactivating of a specific type of date or information

According to the 7th aspect of the invention the activating and/or deactivating of a specific type of data or information may be done via any one or more of: digital or software switches

or encryption keys

According to the 8th aspect of the invention the received data may be displayed in real time or at future date or time

According to the 9th aspect of the invention the signal may be a encoded /encrypted signal that is decoded / decrypted at user base

According to the 10th aspect of the invention the is included a system for the downloading of information /data comprising:

- a data broadcast receiver;
- demodulator;
- microprocessor; and
- suitable power supply with the specific purpose of receiving data broadcasts from an internet service provider.

According to the 11th aspect of the invention the is included a system wherein the receiver comprises an integrated circuit and support components providing the required circuitry to perform the functions of a superhetrodine receiver being any one or more of:-

· tuned radio frequency (RF) front end

· local oscillator

· double balanced mixer

· two stage intermediate frequency amplifier

· FM quadrature detector

According to the 12th aspect of the invention the tuning is accomplished via a control bus which is driven by a microprocessor.

According to the 13th aspect of the invention the modem section consists of a circuitry that implements gaussian minimum shift keying (GMSA) demodulation. Data rates of up to 80bk/s, with options to select radio data channel bandwidth requirements, are achievable. The modem section comprises an amplifier feeding a Rx filter which then feeds:-

· Rx level measurement circuit

· Rx clock extraction circuit

· a data extraction unit

According to the 14th aspect of the invention the extracted data is fed indirectly to the PC interface

According to the 15th aspect of the invention the microprocessor implements the following functions:-

· communication to and from the host PC

· tuning of the receiver to the desired broadcast frequency

· providing for a unique user address

· providing for storage of user keys the purpose of which is to enable one or more of the various services being offered by the service provider (similar to a Pay TV broadcast system where certain channels are enabled or disabled)

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will now be described with reference to the accompanying diagrams , flow and process charts without implying any limitations to the invention of which:

Figure 1 there is included a simplified embodiment of the invention including the system and method of downloading data and/or information to a user base

Figure 2 more specifically relates to the downloading / forwarding of data/information to multiple users via a wireless system or network

Figure 3 more specifically relates to the downloading forwarding of data/information to multiple users via a cellular system or network

Figure 4 more specifically relates to the downloading forwarding of data/information to multiple users via a satellite system or network

Figure 5 more specifically relates to a the system and method of distributing data/information where a service provider facilitates content to be broadcasted

Figure 6 includes an example of the components at user base that is needed to receive, manage and display broadcasted data including

Figure 7 particularly relates to satellite receivers such as those found commonly as part of a subscription television broadcast

Figure 8 is a basic block diagram including the functioning of one or more switches as part of the reception device or via a software system

Figure 9 shows the activation and/or deactivation of the receiver or channels via the reception device

Figure 10 illustrates the use of encryption keys where the signal is received, processed and one or more channels is activate or deactivated

DESCRIPTIONS OF THE PREFERRED EMBODIMENTS

Turning to Figure 1; there is included a simplified embodiment of the invention including the system and method of downloading data and/or information to a user base 1 including one or more content providers 2 which may for example include a web site, financial information such as stock prices and even magazines or games. The content providers 2 forward the data / information 3 that needs to be downloaded to a service provider 4 that facilitates and/or manages the data/information that is transmitted 5 via one or more broadcasters to be received at user base 6 via appropriate reception means; which in turn allows users to access the content 7. The content providers and/or service providers and/or broadcasters may be connected or connectable to the Internet. The data at user base may be access via an appropriate software system or module which may include a conventional Internet browser or a customized software package or applet.

Figure 2 more specifically relates to the downloading / forwarding of data/information to multiple users via a wireless system or network 8 including one or more service providers 9 which is connected or connectable 10 to a broadcaster 11. Of coarse the service provider and broadcaster may be the same entity or broadcasting may be a function or a service provider. The broadcaster 11 facilitates the broadcasting and/or transmission 13 of data/information via appropriate broadcasting means 12 i.e. via a FM transmitter or Tv

broadcast transmitter. At user base (i.e. a home or an office) such as that of users A, B and C a remote data terminal such as a PC 15 is equipped with reception and/or receiver means 14 for receiving the transmission. The downloaded data/information may be viewed on display means such as a PC screen 16 and manipulated and controlled via input means such as a keyboard 18 and/or mouse 17. In another example users D, E and F may receive the broadcast via a set-top box 21or modified household appliance equipped with reception means 20 for display on a conventional TV screen and with a remote control 23 for manipulating and controlling the data or information viewed.

Figure 3 more specifically relates to the downloading/forwarding of data/information to multiple users via a cellular system or network 24 including one or more service providers 25 which is connected or connectable to a broadcaster or cellular network operator 26. The cellular network operator 26 may have multiple communication cell's 27 covered via a base station 28 connected or connectable to the network operator 26. Of coarse the service provider and broadcaster / network operator may be the same entity or broadcasting may be a function of the service provider. The broadcaster/network operator 26 facilitates the broadcasting and/or transmission of data/information via appropriate broadcasting means 28 i.e. via a cellular transmitter or base station. At user base (i.e. a home or an office) such as that of users A, B and C a remote date terminal such as a PC 30 is equipped with reception and/or receiver means 29 for receiving the cellular transmission. The downloaded

data/information may be viewed on display means such as a PC screen 32 and manipulated and controlled via input means such as a keyboard 33 and/or mouse 32. In another example users D, E and F may receive the broadcast via a set-top box 35 or modified household appliance equipped with reception means 34 for display on a conventional TV screen 36 and with a remote control 37 for manipulating and controlling the data or information viewed

Figure 4 more specifically relates to the downloading/forwarding of data/information to multiple users via a satellite system or network 38 including one or more service providers 39 which is connected or connectable 40 to a broadcaster or satellite network/broadcast operator 41. The satellite network operator/broadcaster 41 may have satellite transmission means 42 for transmitting the data/information to an earth orbiting satellite 43 which relays the transmission to multiple users. At user base a user may have a satellite antenna or dish 44 connected or connectable to a PC for example 45 for displaying the data/information via a screen 46 and furthermore it may be manipulated and controlled via input means such as a keyboard 47 and/or mouse 48.. Of coarse the service provider and broadcaster / network operator may be the same entity or broadcasting may be a function of the service provider. In another example users may receive the broadcast via a satellite antenna or dish connected or connectable to a set-top box 51 or modified household appliance equipped with processing means for display of data/information on a conventional TV screen 50 and with a remote control 52 for manipulating and controlling the data or information viewed.

Figure 5 more specifically relates to a the system and method of distributing data/information 53 where a service provider 54 facilitates content 55 to be broadcasted 56 via broadcaster 57 or via broadcasting means 58 via wireless communication means s appropriate 59; for reception 60 at a user base 61.

Figure 6 includes the an example or the components at user base 62 that is needed to receive, manage and display broadcasted data including; a wireless receiver 63 which may include decoding means 64 for saving the data/information as is or in a compressed format on memory means 66 such as a hard disk or other memory 68. In on embodiment the received file may be saved as is 65 for decoding /decrypting when accessed. The data/information may be accessed via the memory means 69 from where it is directed or managed via the display input /control means 70 for representation on a display device 71 such as a screen or TV unit.

Figure 7 particularly relates to satellite receiver 72 such as those found commonly as part of a subscription television broadcast. The satellite signal 73 is mostly in digital format 74 but included is a audio signal 75 received as is or ind digital format 76. Because many satellite services has audio channels as part of the broadcast; this invention may be efficiently applied and integrated with this service. A satellite antenna or dish 77 may allow a decoder or IRD (integrated receiver decoder) 78 to save the signal containing the data/information on

memory means internal to the device (not shown) or to a device externally connected 79 through the RS232 port where available. From here the downloaded data/information may be viewed via a monitor or screen 80 and be manipulated or "browsed" through via remote control 81

In Figure 8 which is a basic block diagram including the functioning of one or more switches as part of the reception device or via a software system 82 there is included the receiver means 83 which receives the signal and the processing means 84 with one or more switches 85 which may be either via the wireless reception or via software be used to enable and/or disable access and/or reception of broadcasted channels 86. The system or user may check the status 87 of the switches or channels. The specific channel may be prepaid or be part of a monthly debit order which allows the device or software to determine which signals or broadcast to be received or decoded 88 for processing 90 and access or display on the display means 91.

Figure 9 shows the activation and/or deactivation of the receiver or channels 92 via the reception device 93 and processing device 94 which allows one or more channels 95 to be activated /deactivated 96 as a group or an individual channel 97. By this process the status or position 98 of the chanal may be altered allowing the decryption 99 for accessing 100 the

data/information for viewing 101.

Figure 10 illustrates the use of encryption keys 102 where the signal is received 103, processed 104 and one or more channels 105 is activate or deactivated 106 via the use of keys . Certain channels may be free 107 or be activated via a key code 108 which is used to allow viewing/saving of the data/information. Also a blank key 109 may be used to personalized a channel or receive specific broadcast items such as E-mail. The keys is used to alter the channel status 110 for receiving and/or saving the data/information 111 and for appropriate viewing 112.

It is envisaged that each receiver may have a unique identity or group identity for forwarding specific user data i.e. E-mail to the user. Also the switches may be manipulated to be in an on/off or live/dead position or status and vice versa. This feature may allow service providers to activate and/or deactivate the receivers and/or channels as discussed.

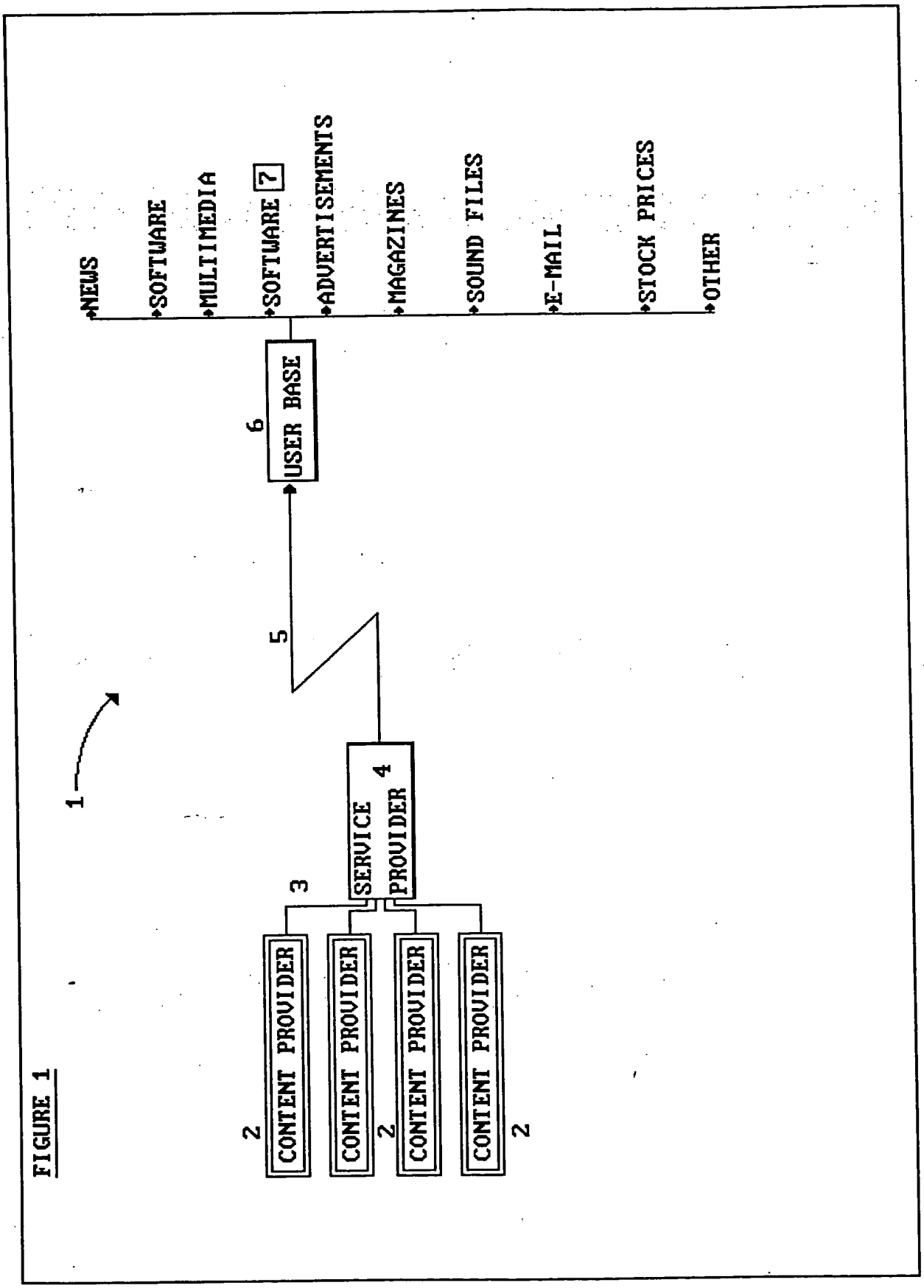
While not being part of the receiver, clearly software in the PC will be in overall control of the receiver unit. This software will provide for various functions including issuing commands to tune the receiver, capture incoming data and decoding/decrypting data based on decryption keys provided to each user and programmed into each users receiver unit. Such decryption will allow, for example, Email to be decoded by the intended recipient and

not by other users of the system.

Data decompression is also handled by the PC software although this may be achieved in hardware in later models.

Likewise, prior to transmission by the service provider, suitable encryption/compression of data may be required along with packeting the data addresses to specific groups or general receivers.

Similarly, while not being part of this description, the actual transmission of the signal must be in accordance with the receiver's specifications.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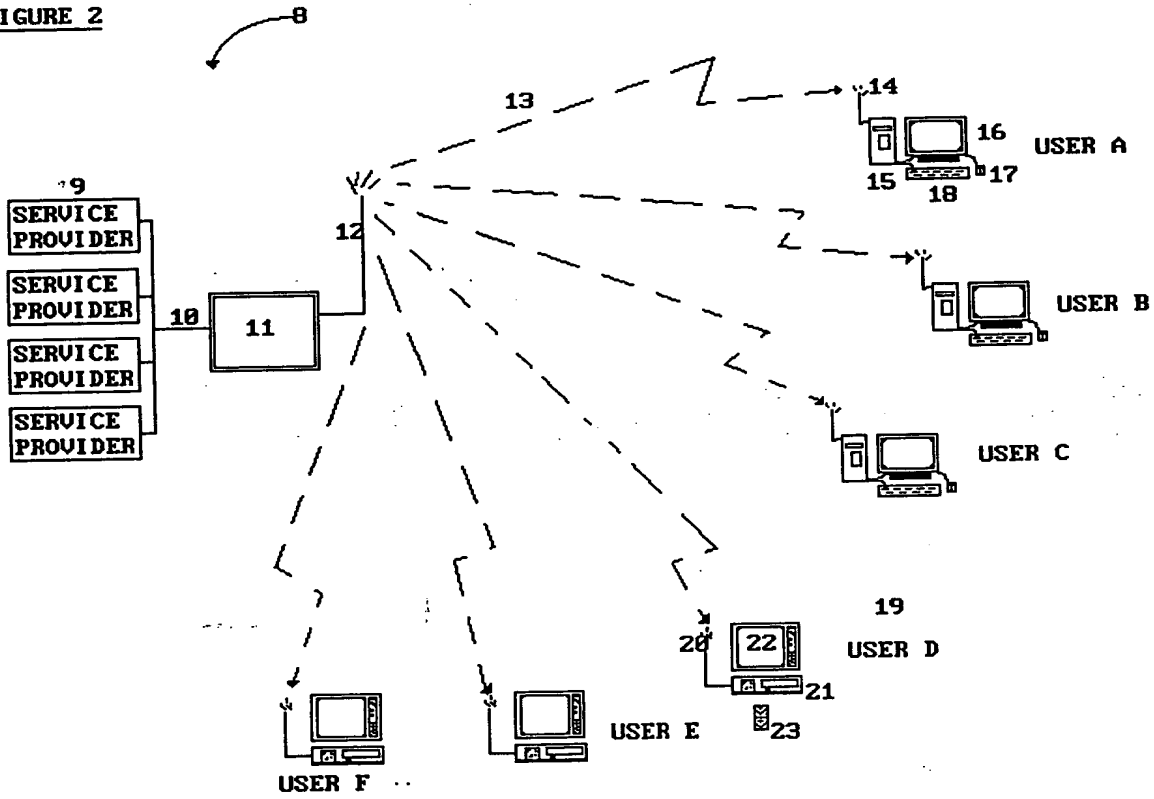
SOFTWARE
MULTIMEDIA
SOFTWARE 7
ADVERTISEMENTS
MAGAZINES
SOUND FILES
E-MAIL
STOCK PRICES
OTHER
6
USER BASE
5
1
SERVICE PROVIDER 4
3
CONTENT PROVIDER 2
CONTENT PROVIDER 2
CONTENT PROVIDER
CONTENT PROVIDER 2

FIGURE 1

FIGURE 2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SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER
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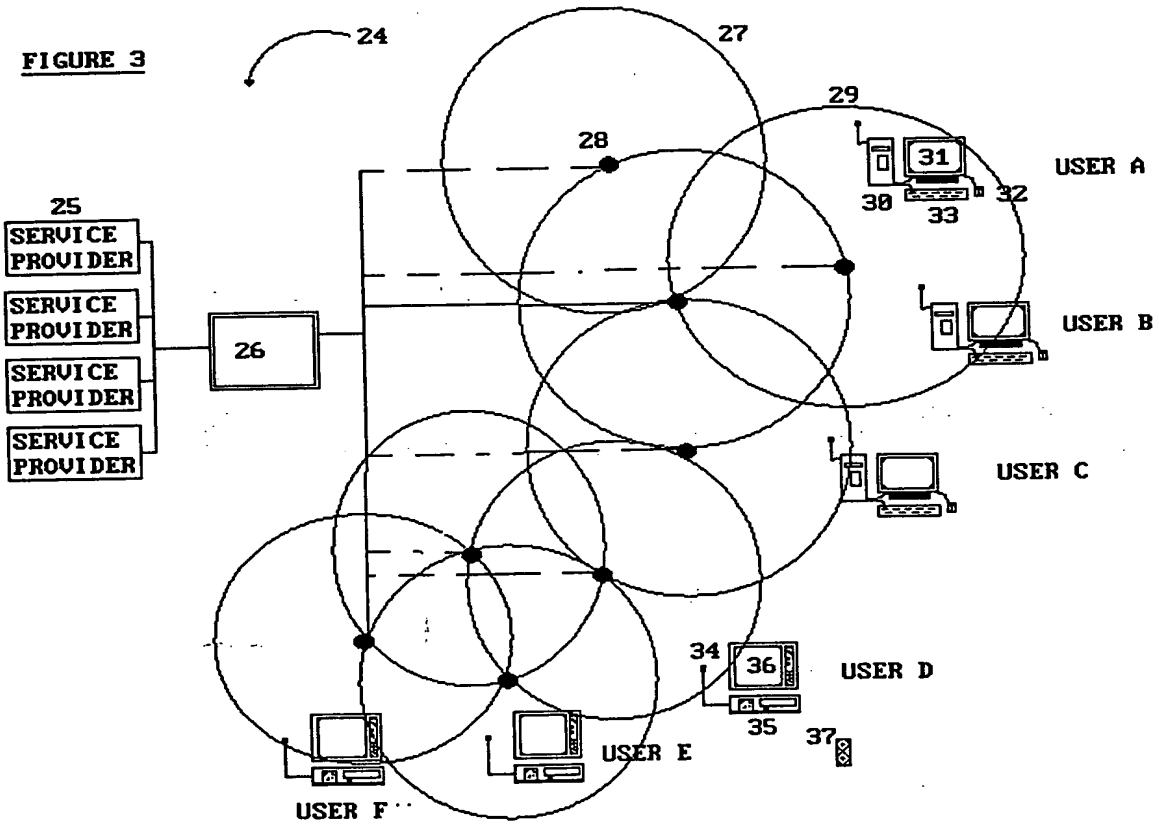
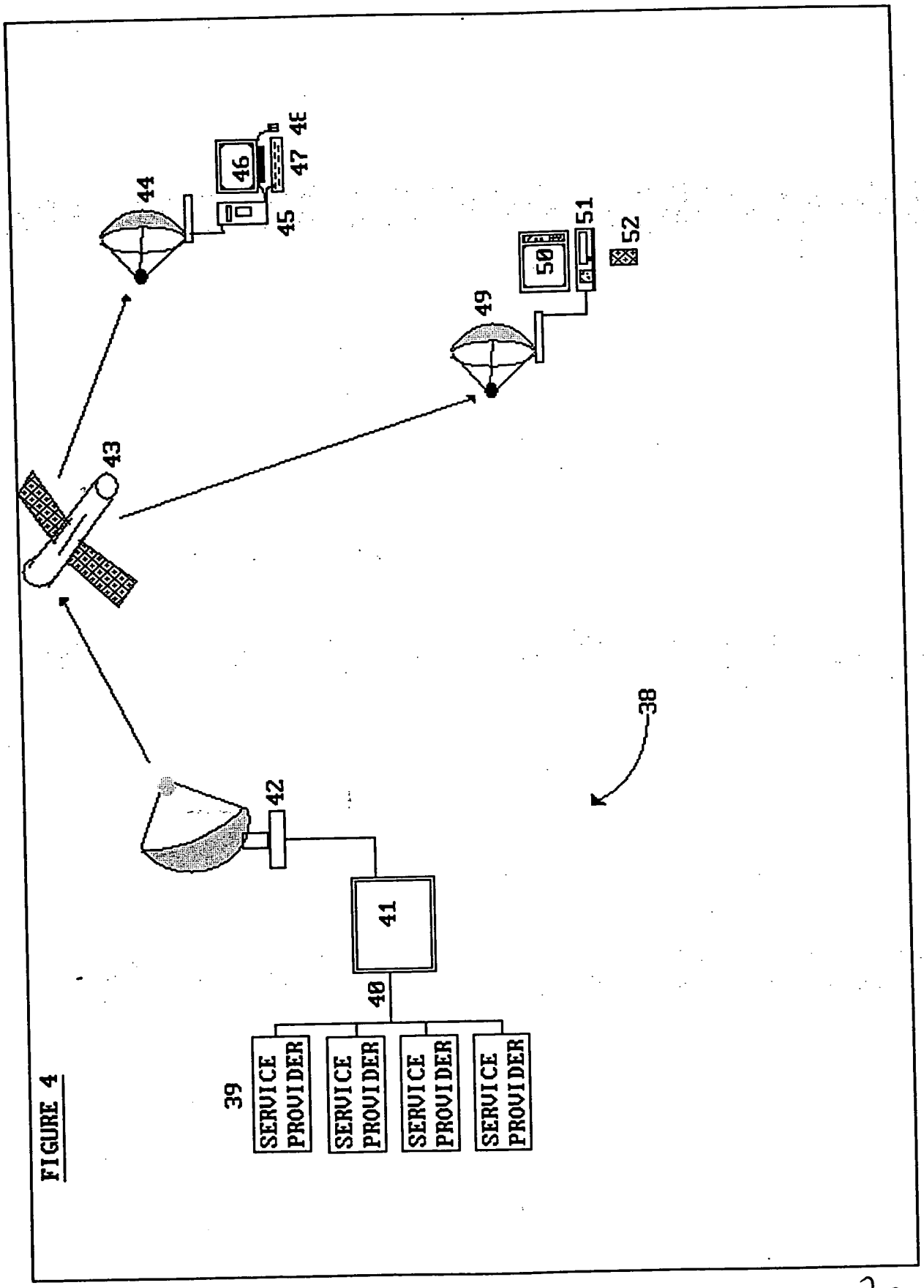
USER A
USER B
USER C
19
20
22
21
23
USER D
USER E
USER F

FIGURE 3


24
27
29
28
31
USER A
30
32
33
25
SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER
26
USER B
USER C
34
36
USER D
35
37
USER E
USER F


38
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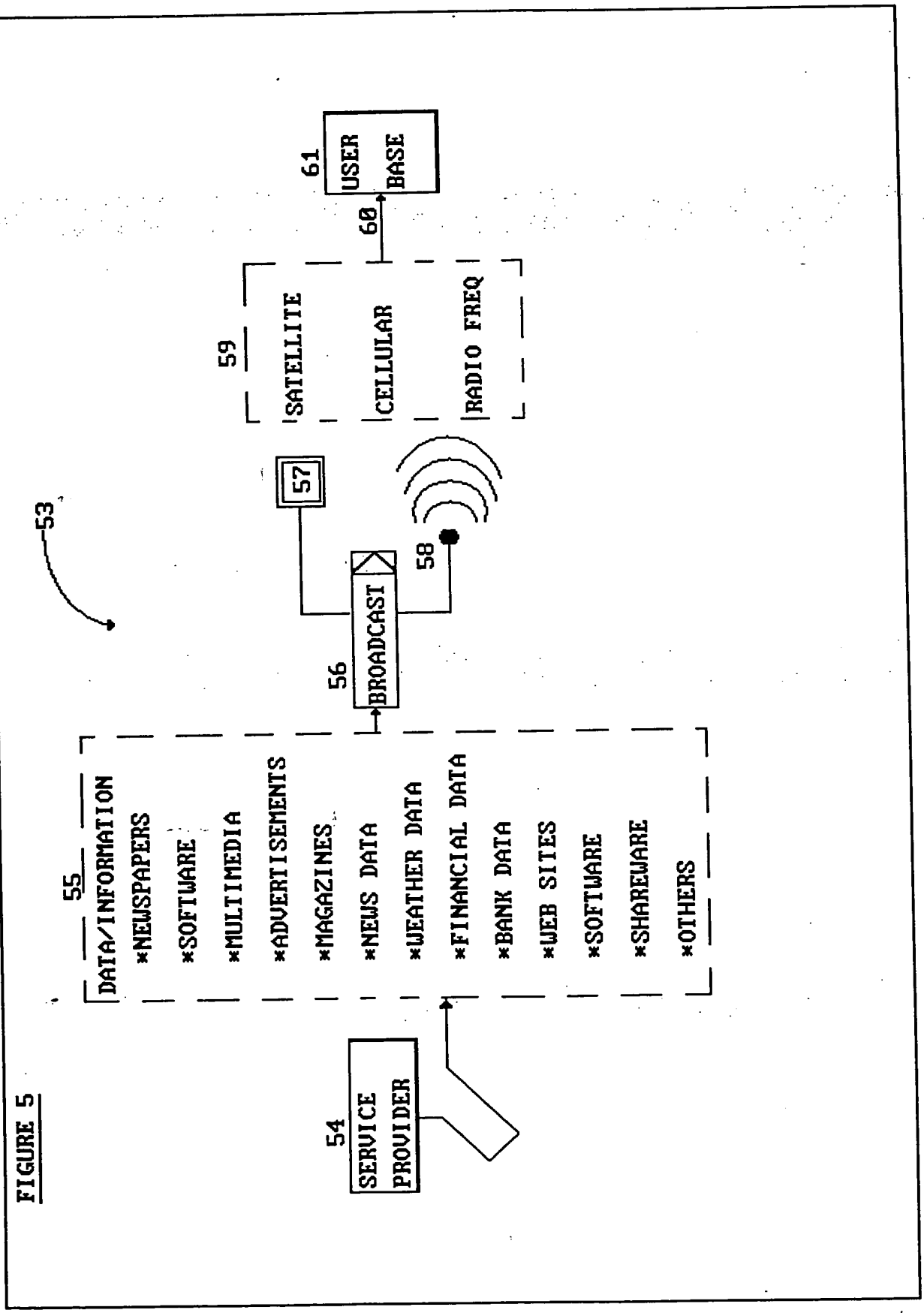
52
SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER
SERVICE PROVIDER

FIGURE 4


53
55
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*SOFTWARE
*MULTIMEDIA
*ADVERTISEMENTS
*MAGAZINES
*NEWS DATA
*WEATHER DATA
*FINANCIAL DATA
*BANK DATA
*WEB SITES
*SOFTWARE
*SHAREWARE
*OTHERS
54
SERVICE PROVIDER
56
BROADCAST
57
58
59
SATELLITE
CELLULAR
RADIO FREQ
60
61
USER BASE

FIGURE 5

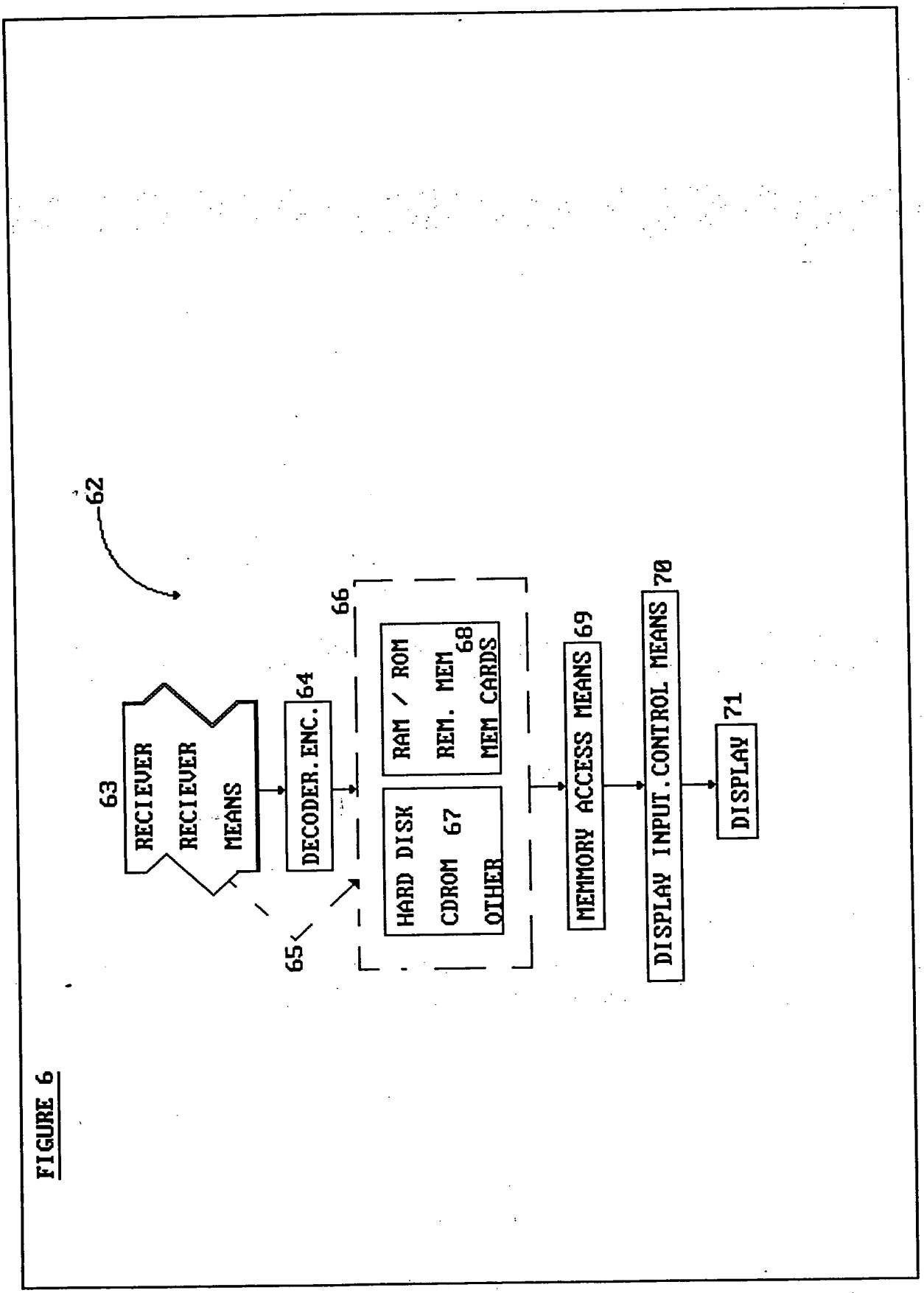

62
63
RECIEVER
RECIEVER
MEANS
64
DECODER. ENC.
66
HARD DISK
CDROM 67
OTHER
RAM / ROM
REM. MEM
MEM CARDS
68
65
69
MEMORY ACCESS MEANS
70
DISPLAY INPUT. CONTROL MEANS
71
DISPLAY

FIGURE 6

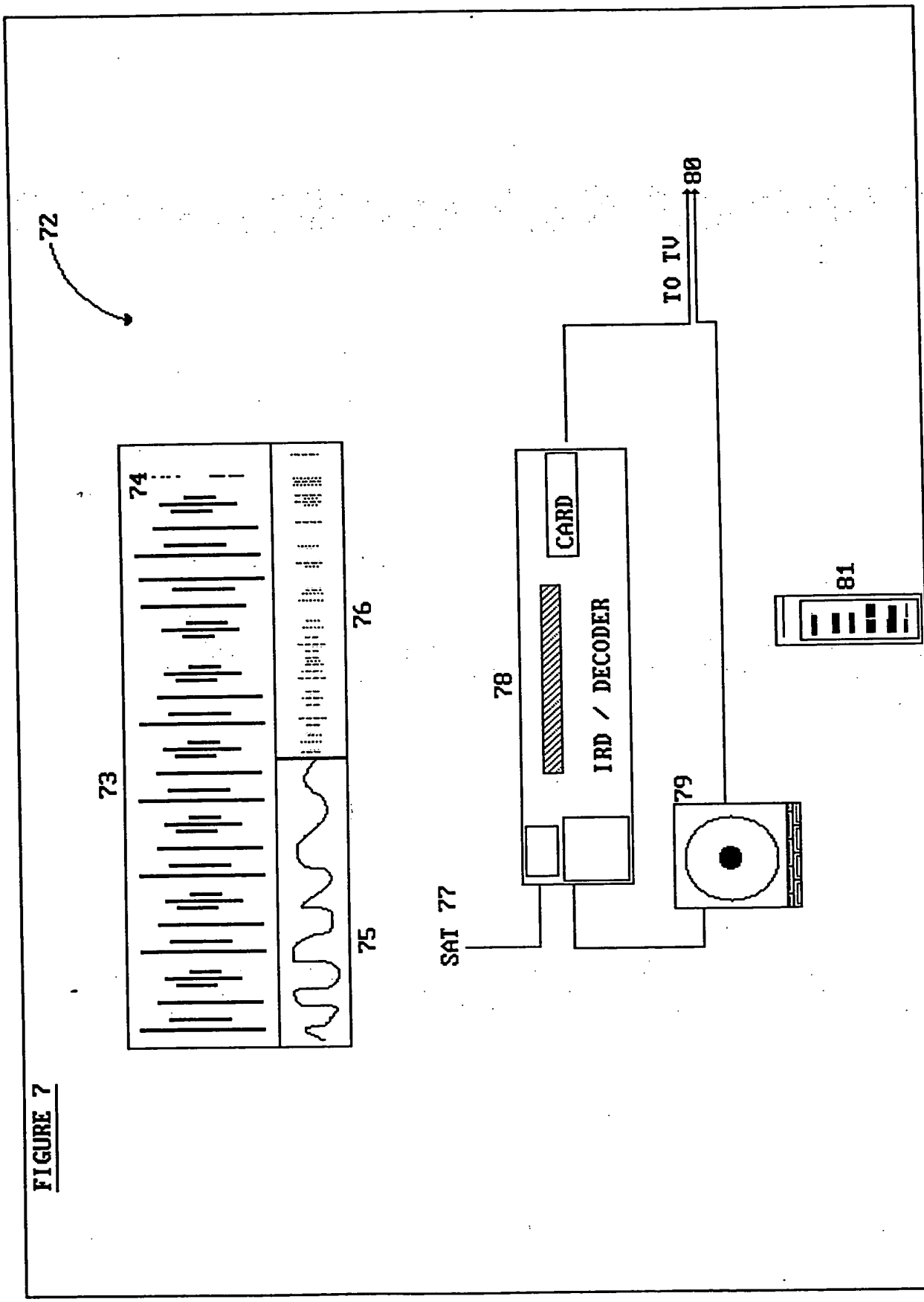


FIGURE 7

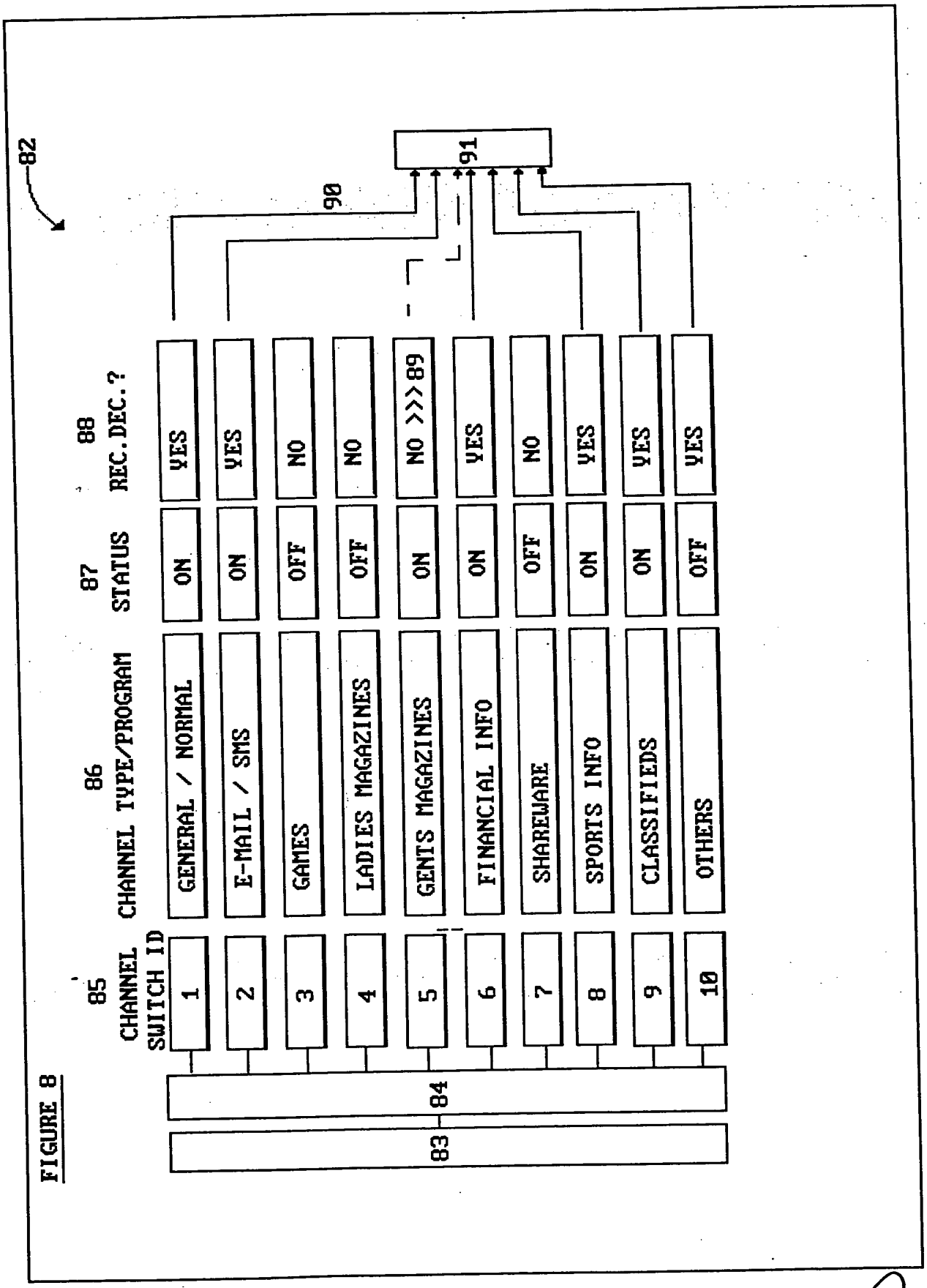
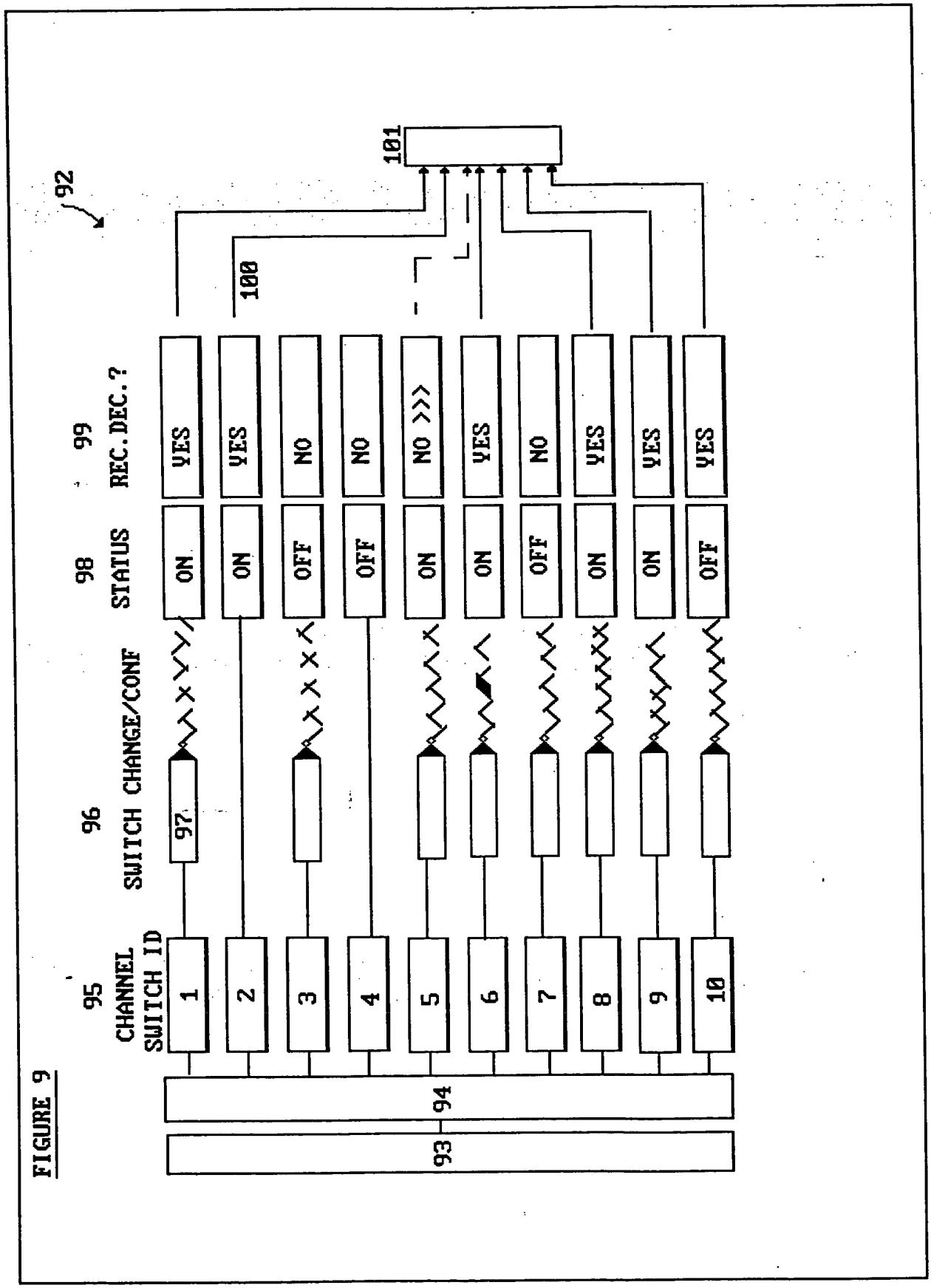

82
85
CHANNEL SWITCH ID
86
CHANNEL TYPE/PROGRAM
87
STATUS
88
REC.DEC.?
90
91
1
2
3
4
5
6
7
8
9
10
GENERAL / NORMAL
E-MAIL / SMS
GAMES
LADIES MAGAZINES
GENTS MAGAZINES
FINANCIAL INFO
SHAREWARE
SPORTS INFO
CLASSIFIEDS
OTHERS
ON
ON
OFF
OFF
ON
ON
OFF
ON
ON
OFF
YES
YES
NO
NO
NO >>> 89
YES
NO
YES
YES
YES
84
83

FIGURE 8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101
100
99
REC.DEC.?
98
STATUS
96
SWITCH CHANGE/CONF
97
95
CHANNEL SWITCH ID
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YES
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NO >>>
YES
NO
YES
YES
YES
ON
ON
OFF
OFF
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5
6
7
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9
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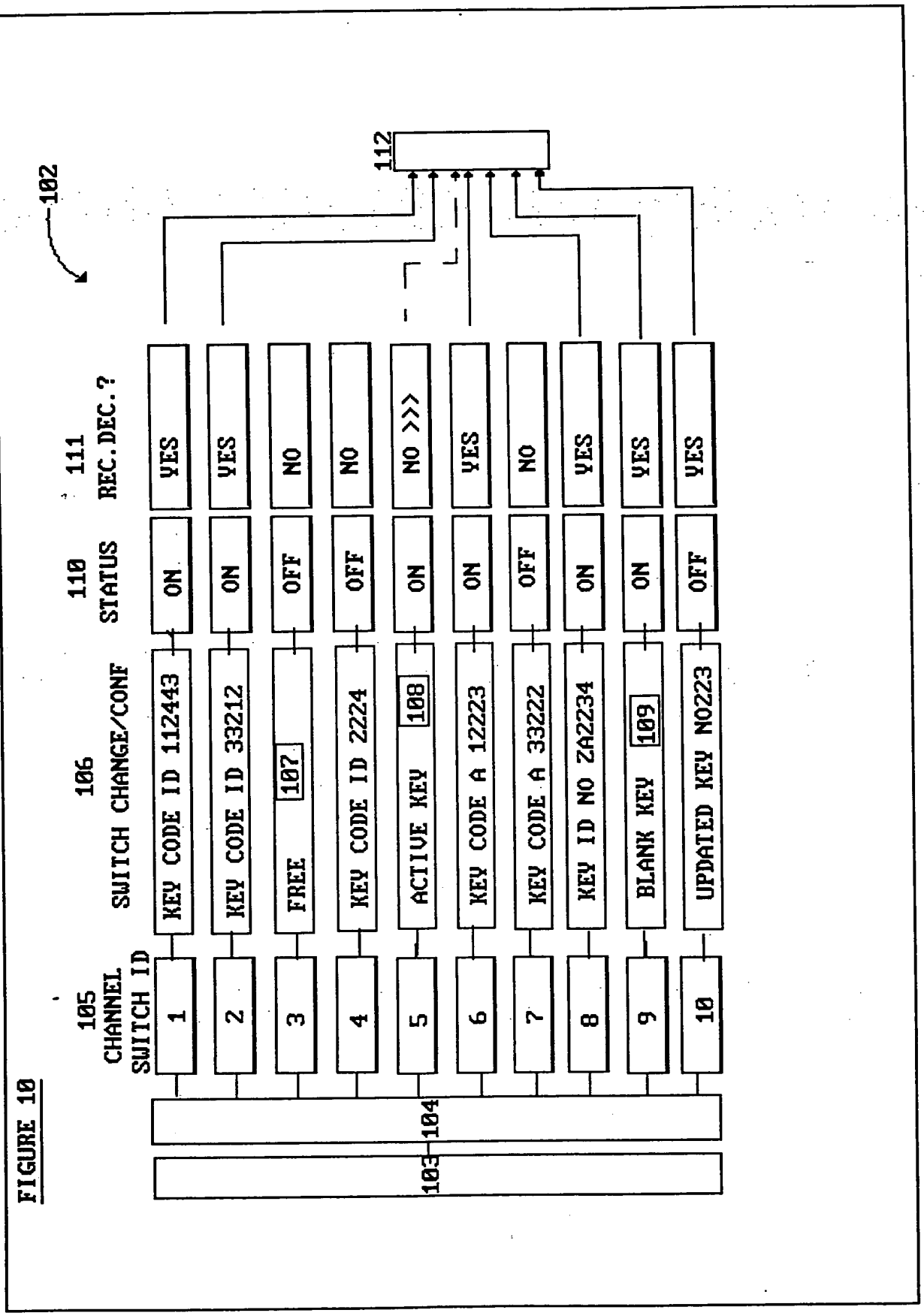
94
93

FIGURE 9


102
112
105 CHANNEL SWITCH ID
106 SWITCH CHANGE/CONF
110 STATUS
111 REC.DEC.?
1
2
3
4
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6
7
8
9
10
KEY CODE ID 112443
KEY CODE ID 33212
FREE 107
KEY CODE ID 2224
ACTIVE KEY 108
KEY CODE A 12223
KEY CODE A 33222
KEY ID NO ZA2234
BLANK KEY 109
UPDATED KEY NO223
ON
ON
OFF
OFF
ON
ON
OFF
ON
ON
OFF
YES
YES
NO
NO
NO >>>
YES
NO
YES
YES
YES
104
103

FIGURE 10